From: George Brett <ghb@concert.net>
Subject: WAIS White Paper vs. 10.21
To: jds@concert.net, Fullton@samba.acs.unc.edu (Jim Fullton),
        davidb@ncsc.org (David Bennett), brewster@Think.COM (Brewster Kahle),
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Date: Mon, 21 Oct 91 7:31:51 EDT
Cc: ghb@concert.net (George Brett)

Folks here is the latest version of the white paper. Alan asked me to
broaden the scope a bit. To make it more of an executive summary with
vision and direction. I hope this works. Any and all suggestions are
very welcomed. Thanks for your input and help. -- george

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The WAIS Support Center project

The national information infrastructure is maturing quickly. Many
institutions, organizations, and coalitions of associations are
working to insure standards, to provide services, and to facilitate
development of applications. Indications of this maturation can be
seen by the variety of resources available via the Internet. The
Internet, the Internet Resource Guide lists more than 105 resources,
there are more than 200 libraries on the network that offer
information services and there are thousands of mailing lists public
and private using the net. These indicators point to a growing
concern: effective applications for locating and using these resources
that are being added to the network on an hourly basis.

One answer to the explosion of network resources has been rapid growth
of network utilities and applications from developers around the
world. Many of these projects are volunteer efforts by programmers who
are using "borrowed" time and "borrowed" computing resources. When
budgets run short (esp. as we are seeing in higher education) these
"borrowed" resources have to be returned to "real" work. We can not
afford to loose these valuable resources.

In response to these two issues a group of universities, a
communication provider, and a super computing center have come
together to insure the continued development and promotion of
important network applications. One way to do this is to identify
valuable projects that are both valuable and at risk. Projects
currently identified by the group include: the Wide Area Information
Server, Archie: The McGill School of Computer Science Archive Server,
the Prospero distributed operating sytem, and the WorldWideWeb
hypertext document retrieval software. The one project that has the
highest priority for the members of this group is the Wide Area
Information Server from Thinking Machines.

The Wide Area Information Server (WAIS) establishes a new paradigm for
electronic publishing by delivering directly to the desktop
information tailored to the user's interests and preferences. It can
be described simply as an interactive, integrated browsing tool for
networks. A user queries multiple resources with plain English
questions. The results of the queries, regardless of the physical
location of the information or its native data format, are displayed
on the computer screen as they are being retrieved. Searches can be
narrowed based on feedback relevant to the user's personal
"acceptability" criteria. Currently text and graphics can be
retrieved, but because of the inherent extensibility of the WAIS
protocol other media such as sound or full-motion video can be
delivered. (See Appendix X for a full description of WAIS.)

WAIS generated considerable interest among networked information
providers when a version was released by its developers, Thinking
Machines, Inc., in early 1991. Almost immediately, volunteer
developers at universities and organizations around the world began to
expand the number of computer platforms capable of supporting the
client and the server components of WAIS. Currently there are more
than eighty servers running in four countries on three continents.

Nowhere have these efforts been more evident than at the University of North Carolina at Chapel Hill and North Carolina State University, where new products have already been delivered and serious research into the utility, flexibility, and extensibility of WAIS has begun.

The leadership and support for these developments has been provided informally through the efforts of Thinking Machines, Inc.'s principal developer Brewster Kahle. This is a good example of how a valuable resource has been developed and distributed by grass roots, volunteer activities. We believe it is time to formalize the coordination of these rapid developments through the formation of a WAIS Support Center at the Center for Communications of MCNC, Research Triangle Park, NC.

The WAIS Support Center would capitalize on resources available in North Carolina (people, computers, information collections and statewide data communications networks) while simultaneously offering a focus for WAIS research and development by organizations and individuals outside the state. Similar cooperative efforts in North Carolna have proven successful such as when implementing Campuswide Information Systems (CWIS) using DEC's VTX program at six campuses.

The Support Center will insure that quality and adherence to international standards will be maintained. The center will be the main library of information resources about WAIS and other projects. Developers and end users will electronically query the databases and retrieve information or software from the archives at the Support Center.

In addition to the central resource to be located in North Carolina no doubt there will be other centers distributed on the network. These centers will be able to model themselves after the NC WAIS Support Center.

Now is the time to make the important first steps to insure that we will have the robust information infrastructure that will be necessary to make full use of vast electronic resources. It is paramount to begin formal, coordinated efforts to create order from the chaotic voluntary efforts of talented individuals. There is a need for more research of networked information retrieval. And most of all there is rapidly growing need to transfer the results of that research into the real world. We can begin to make this happen with the North Carolina WAIS Support Center.